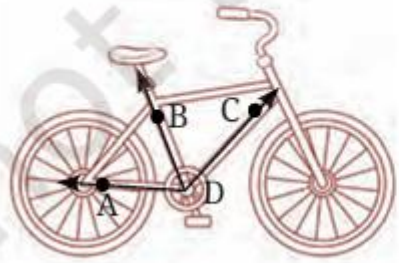
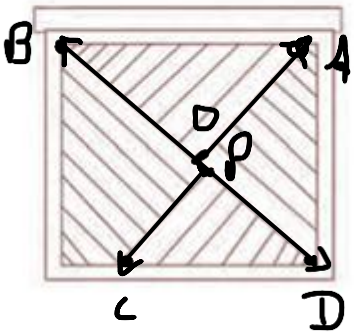
(Bolded Pg. Page Number, ?, ❁ is the sign given to locate the questions, Textbooks (B), Classwork (C.W.) & Homework (H.W.) notes indicates where its preferably to write answers, Answers written in bold blue colour and black in someplaces, the text written in this colour is explanation or not necessary to write)

Pg.19,20.1.B

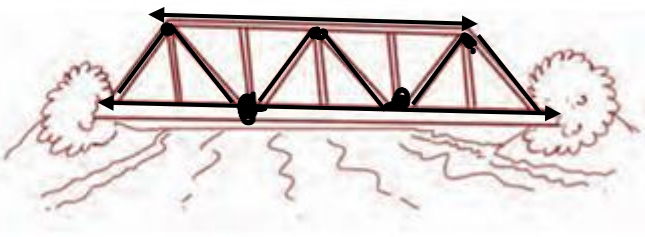
1. Can you find the angles in the given pictures? Draw the rays forming any one of the angles and name the vertex of the angle.





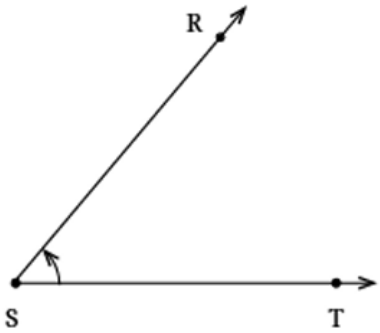
∠AOB,
∠APD,
∠CPD,
∠CPB
$\overrightarrow{PD}, \overrightarrow{PC}$ Vertex is P
$\overrightarrow{OB}, \overrightarrow{OA}$ Vertex is O

∠QPR,
∠RPQ
$\overrightarrow{PQ}, \overrightarrow{PR}$
Vertex is P

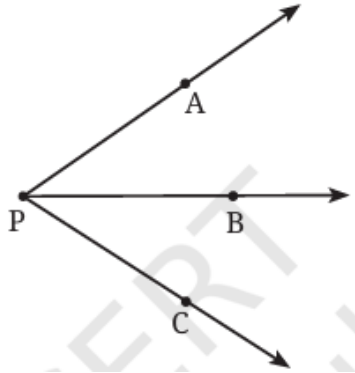


Yes, one of the angles is ∠BDC. It's vertex is D. One ray is $\overrightarrow{DC}$ and the other rays $\overrightarrow{DB}$.

Pg.20.2.B Draw and label an angle with arms ST and SR.

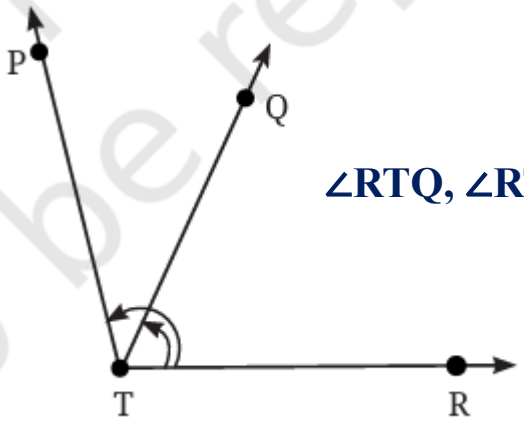


C.W. Pg.20.3. Explain why ∠APB cannot be labelled as ∠P.



At point P, there are multiple angles formed because three rays namely, $\overrightarrow{PA}$, $\overrightarrow{PB}$, $\overrightarrow{PC}$ which are upward, horizontal, downward rays meet there. This creates at least two distinct angles at vertex P:
∠APB (between rays PA and PB)
∠BPC (between rays PB and PC)
We cannot label ∠APB as ∠P because more than one angle is formed at vertex P, and using only ∠P would not specify which angle we are referring to.

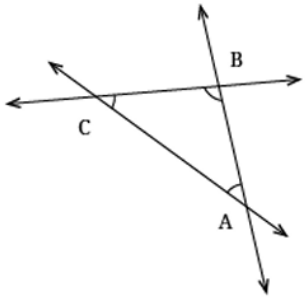
Pg.20.4.B. Name the angles marked in the given figure.



∠RTQ, ∠RTP are the angles marked in the given figure.

C.W. Pg.20.5. Mark any three points on your paper that are not on one line. Label them A, B, C. Draw all possible lines going through pairs of these points. How many lines do you get? Name them. How many angles can you name using A, B, C? Write them down, and mark each of them with a curve as in Fig. 2.9.

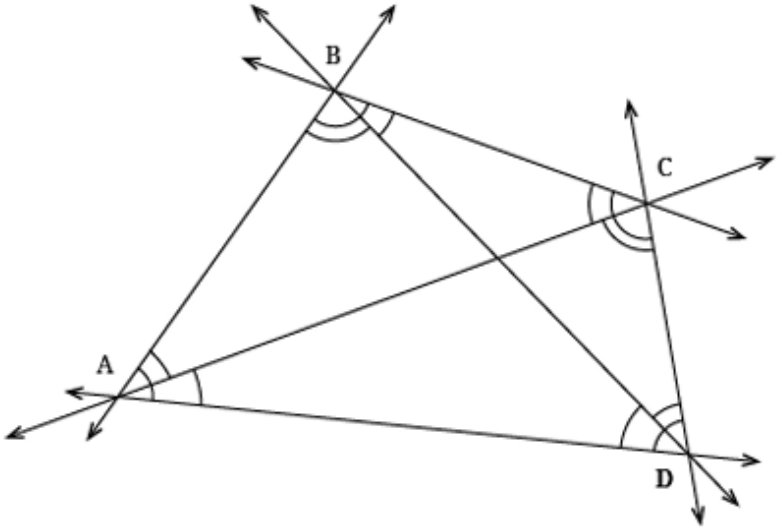
We get three lines $\overleftrightarrow{AB}$, $\overleftrightarrow{BC}$, $\overleftrightarrow{CA}$.



Using A, B & C we can name three angles: ∠ABC or ∠CBA, ∠BCA or ∠ACB & ∠CAB or ∠BAC.

C.W. Pg.21.6. Now mark any four points on your paper so that no three of them are on one line. Label them A, B, C, D. Draw all possible lines going through pairs of these points. How many lines do you get? Name them. How many angles can you name using A, B, C, D? Write them all down, and mark each of them with a curve as in Fig. 2.9.

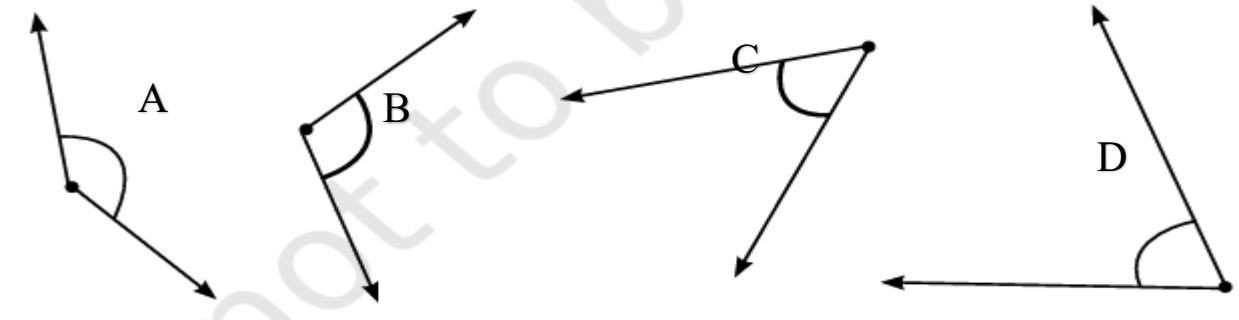
We get six lines $\overleftrightarrow{AB}$, $\overleftrightarrow{BC}$, $\overleftrightarrow{CD}$, $\overleftrightarrow{DA}$, $\overleftrightarrow{AC}$ & $\overleftrightarrow{BD}$

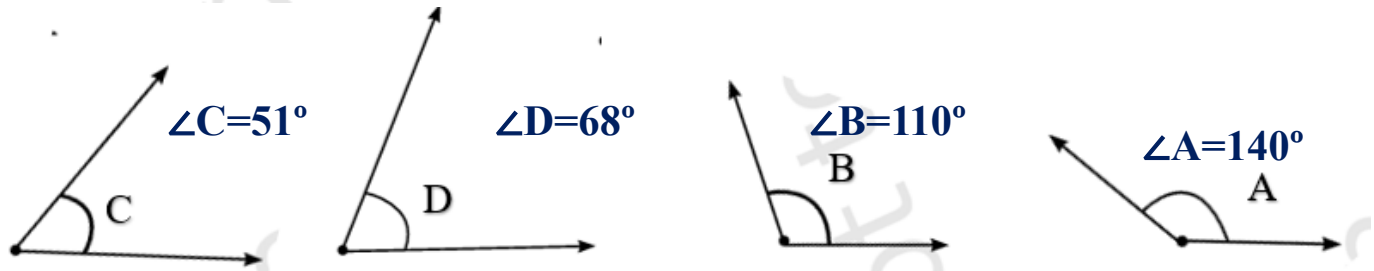


Using A, B, C & D we can name the following angles ∠BAC, ∠CAD, ∠BAD, ∠ADB, ∠BDC, ∠ADC, ∠DCA, ∠ACB, ∠DCB, ∠CBD, ∠DBA & ∠CBA

Pg:21.❁.B. Is it always easy to compare two angles? Here are some angles. Label each of the angles. How will you compare them? (Draw a few more angles; label them and compare.(H.W.))

No. it is not always easy to compare two angles. For eg. 89° & 91° angles cannot be compared without measuring or overlapping. But for the given figures, comparison is easy. Each of the angles is labelled and arranged from smallest to the largest.





Pg.23. ❁.B. Where else do we use superimposition to compare?

A few examples are- line segments, squares and circles.

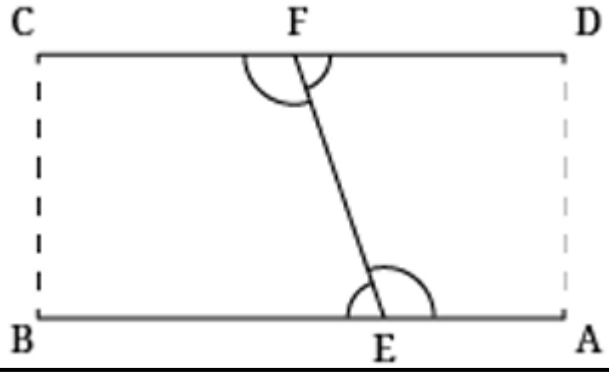
C.W. Pg.23.Figure it out.1. Fold a rectangular sheet of paper, then draw a line along the fold created. Name and compare the angles formed between the fold and the sides of the paper. Make different angles by folding a rectangular sheet of paper and compare the angles. Which is the largest and smallest angle you made?

Soln:

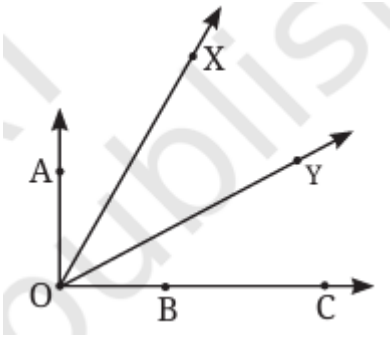
Angles Formed: ∠AEF, ∠BEF, ∠DFE, ∠CFE.

Here ∠AEF & ∠CFE are larger than ∠BEF & ∠DFE.

We can also try more cases by folding rectangular sheets in different ways.



C.W. Pg.23.Figure it out.2. In each case, determine which angle is greater and why. a. ∠AOB or ∠XOY b. ∠AOB or ∠XOB c. ∠XOB or ∠XOC Discuss with your friends on how you decided which one is greater.



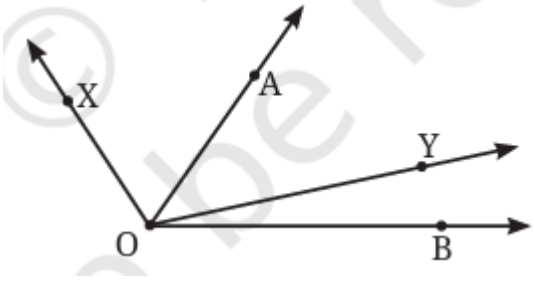
Soln:

(a) ∠AOB is greater as it is right angle whereas ∠XOY is an acute angle which is less than the right angle. Also, ∠AOB = ∠AOX + ∠XOY+∠YOB

(b) ∠AOB (∠AOB = ∠AOX + ∠XOY+∠YOB)

(c) None is greater. Because, both are same angles. ∠XOB = ∠XOC

C.W. Pg.23.Figure it out.3. Which angle is greater: ∠XOY or ∠AOB? Give reasons.



Soln: By looking at the figure we cannot say. Superimposition or measurement is necessary here. But slightly it seems like ∠XOY is greater. When measuring it with protractor we get ∠XOY=110° and ∠AOB=55°

Pg:21.B. Look at these animals opening their mouths. Do you see any angles here? If yes, mark the arms and vertex of each one. Some mouths are open wider than others; the more the turning of the jaws, the larger the angle! Can you arrange the angles in this picture from smallest to largest?

∠Fish=10º

∠Crocodile=20º

By looking at the images itself, we can say the order from smallest to largest.

∠Snake=70º

∠Bird=120º

Pg:28.❁.B. Is it possible to draw OC such that the two angles are equal to each other in size? **Yes, when $\overrightarrow{OA}$ and $\overrightarrow{OB}$ overlap each other on folding the Vidya's notebook, the crease OC will divide ∠AOB in two equal sized angles. (Also, if we draw $\overrightarrow{OC}$ at 90º, we get two angles that are equal to each other in size.)**

Pg:29.❁.B. If a straight angle is formed by half of a full turn, how much of a full turn will form a right angle? **1/4 of a full turn (Quarter of a full turn).**

Pg:29.Figure it out.1.C.W. How many right angles do the windows of your classroom contain? Do you see other right angles in your classroom?

We have 3 windows in our classrooms which seems like rectangular in shape. The four corners or vertices of each window has four right angles. So there are 8 right angles seen at the windows of our classroom. I see two doorways where there are again 8 right angles, the digital smart board and chalk green board, the corners of the class, the flooring tiles of the class, the ceiling of the class, the grills in the windows, etc. We have many right angles surrounded by us in our classroom.